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AN INAUGURAL ESSAY

ON

UTERINE HÆMORRHAGE;

SUBMITTED

TO THE EXAMINATION

OF THE

REVEREND JOHN EWING, S. T. P. PROVOST;

THE TRUSTEES

AND MEDICAL FACULTY OF THE UNIVERSITY OF PENNSYLVANIA,

ON THE EIGHTH DAY OF JUNE, 1801,

FOR THE DEGREE OF DOCTOR OF MEDICINE.

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BY WILLIAM BROWN, A. B.

OF PENNSYLVANIA, HONORARY MEMBER OF THE PHILA-  
DELPHIA MEDICAL AND CHEMICAL SOCIETIES.

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Est modus in rebus.

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TO PHILIP SYNG PHYSICK, M. D.

SURGEON TO THE PENNSYLVANIA HOSPITAL.

WHILE I inscribe this Essay to your name, let it not be considered as a mere compliment. To you only am I indebted for much useful information in Medicine and Surgery, and to which I wish I could offer a better proof of attention.

Accept of this as a testimony of gratitude and esteem, from

Your very much obliged

Friend and Pupil,

WILLIAM BROWN.





## UTERINE HÆMORRHAGE.

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THE consideration of Uterine Hæmorrhage is very important, both on account of the frequency of its occurrence, and the danger with which it is attended. All cases of hæmorrhage from the uterus, within the three last months of pregnancy, are attended with great danger to the patient; but before we can consider of them, we must notice, that they may occur at very different periods of time, with respect to actual labor. When hæmorrhages occur during the first six months of pregnancy, we call them abortions. Hæmorrhage may occur at any time from the sixth month till labor commences, or it may occur during labor, before the birth of the child. It may take place during labor after the birth of the child, but before the abstraction of the placenta, or it may happen after the birth of the child and removal of the placenta.

Any accident, which has a tendency to separate a part, or the whole of the placenta from the uterus; as external violence of any kind, blows, falls, &c. may be the remote cause of Uterine Hæmorrhage: or any thing which has a tendency to quicken the general circulation to a considerable degree; and this, probably, by disturbing the order of the circulation between the uterus and placenta: thus violent exercise has produced hæmorrhage, as quick walking, violent running, dancing, &c. The proximate cause of all hæmorrhages, which take place before the birth of the placenta, is a separation of some part, or the whole of that mass from the uterus; by which means, many large vessels are opened, and the uterus is unable to contract sufficiently to close them. There is a peculiar situation of the placenta, which is always attended with hæmorrhage during the last month or six weeks of pregnancy, that is, when it is attached over the os uteri, and the quantity of blood lost will be more or less according to the situation of it, and size of the vessels opened. It will be more considerable when the middle of the placenta is attached to the os uteri, than when only a small portion of the edge covers it. These hæmorrhages, when only a small portion of the placenta is separated, are frequently stopped by coagulation.

The symptoms of this disease are at first very slight. A few vessels only being torn, a slight shew takes place a month or six weeks before

labor; perhaps we do not consider it of much consequence, only it is prudent to watch our patient, that labor may not take place, unless we are present. Sometimes the quantity of blood discharged is very considerable, and comes away at once; immediately after this the woman faints, because not only a considerable loss of blood has taken place, but because it comes away suddenly, and from large vessels, which, therefore, not being completely full, and not contracting themselves immediately to the quantity contained in them, the circulation is, for a time, impeded.

When fainting comes on, the hæmorrhage is restrained so completely, that the woman shall have no more return of it; but much more commonly it is re-produced by a slight cause; such, for instance, as going to stool, or making water. When a woman has had an attack of hæmorrhage, whether it has only appeared once or several times, her life is to be considered in danger, till she is delivered. On this account, we should always endeavour to have our patient removed near to us, otherwise she might die before she can get assistance.

It often happens, when there is much hæmorrhage, that there is no pain, and these are the worst cases, because it plainly shews, that the contraction of the uterus, which is to stop the hæmorrhage, does not take place. The dangers, which

we may expect, and which do actually happen, are, First, the woman may be destroyed by the immoderate loss of blood, not depending on the absolute quantity, but on the suddenness with which it is evacuated; for an animal will be able to lose a certain quantity of blood, from small vessels, and slowly, without its proving fatal; but if the same quantity be taken from large vessels, and suddenly, it will destroy it. Secondly, danger occurs from the repetition of hæmorrhage; because the small quantity which is evacuated, at each time, does not alarm the patient, and lulls the practitioner into a state of security. The danger arising from the frequent repetition of hæmorrhage, increases with every return; for, in proportion to the excessive loss of blood, the powers of the constitution will be weakened, and there will be less of it to carry on the purposes of the system.

The symptoms which denote immediate danger, are a want of pain, shivering, and a want of power in the uterus to contract, which arises from a weakness produced by the loss of a considerable quantity of blood. The next mark, indicating danger, is, when we find the os uteri very much relaxed in a woman who has had several returns of hæmorrhage, because it shews, that there is a want of that power, which ought to restrain the discharge. The next is, when the pulse becomes very low, and, after the return of hæmorrhage, contracted, and yet gives a sharp stroke to the

finger, not unlike the wire of a harpsichord when vibrating, and sometimes it undulates. A very remarkable alteration takes place in the countenance. This becomes extremely pale and fallen, which is occasioned by the blood having deserted the small vessels, to carry on the circulation in the larger vessels about the heart. The next symptom of danger is a great inquietude and restlessness. This is a very unexpected symptom in the course of a hæmorrhage after the woman has lost much blood. After this a continual fainting comes on, one fit quickly succeeding another, during which, however, the hæmorrhage is usually restrained, and the patient may then be considered as near her end. Next, vomiting takes place, which usually puts a stop to the flow of blood for a time. To these succeed laborious respiration, deep sighing, and then a convulsion or two comes forward, in one of which the patient is generally carried off. These are the symptoms of danger which take place when the woman is not destroyed by the first gush of blood. But she is not to be considered as out of danger, even though she does not die from the hæmorrhage or loss of blood, nor even though she survive delivery; for very unexpectedly, a fever comes on three or four days after it, in almost every case of Uterine Hæmorrhage, and often cuts them off.

I shall now consider the treatment of Uterine Hæmorrhage, either as it occurs in the last three months of pregnancy, during labor, or before the



birth of the child ; before the birth of the placenta after the birth of the child, and after the birth of the placenta.

Nature has given to animals, certain powers of restraining hæmorrhage, which consist, both in a contraction of the vessels, so that their diameters are diminished, and the coagulation of the blood, forming plugs in the extremities of the divided vessels. This power of contraction is observed to be more considerable in the small vessels, these being most frequently divided ; was it not for this power of contraction, the most trifling accidents would prove fatal. When large vessels are divided, which do not contract so quickly, a large quantity of blood is suddenly evacuated, and the animal dies, because the circulation could not be carried on.

In Uterine Hæmorrhages, when large vessels are opened by the separation, either of a part or the whole of the placenta, neither of those powers can prove sufficient to stop the loss of blood ; hence Nature has endued the uterus with another mode of restraining the hæmorrhage, which consists in the contraction produced by the muscular fibres of that viscus, and when this does not take place, I do not know of any medicines which are capable of affording any relief. As the contraction of the uterus appears to be the only means of effectually putting a stop to Uterine hæmorrhage, it is the business of the practitioner to endeavour to produce it.

When hæmorrhage occurs before labor, or before the membranes are ruptured, from a detachment of a portion of the placenta, which is over the os uteri, some have recommended to introduce the finger into the os uteri, and insinuate it to the edge of the placenta, when the membranes are to be broken; and the water being discharged, a contraction of the uterus comes on, which stops the hæmorrhage, and sometimes expels the child, without its future appearance. This may sometimes succeed: but I must observe, that, if it does not, and the head of the child is pushed a certain distance down into the pelvis, and the hæmorrhage returns; and, as it would be impossible to introduce the hand to turn the child, it would become necessary to open the head in order to save the mother's life; therefore, I think it would be very wrong to recommend the practice.

At any period of time, during the three last months of pregnancy, if a woman is seized with Uterine Hæmorrhage, we are directed to deliver; but if the os uteri of a woman, who has had a flooding, is not relaxed, and she is not weakened by the loss of blood. I think it is not proper, nor absolutely necessary, to deliver her immediately; for we may wait, if there is no return of the hæmorrhage till the os uteri is relaxed, and when it becomes yielding, we may take that opportunity to deliver her; remembering always, however, that, waiting too long is dangerous. Every discharge of blood from the vagina, during the latter part of

pregnancy, cannot be stiled hæmorrhage. By flooding I mean such a discharge of blood as evidently weakens the patient ; and in such a case, whenever the os uteri begins to feel soft and yielding, which will be in proportion to the sickness induced, I would immediately begin to deliver her, by turning the child. If the membranes were whole, they commonly break, on the introduction of the hand into the uterus, and waters are discharged, which generally restrains the hæmorrhage. If the hæmorrhage is restrained, and does not return, the feet must be taken hold of and brought down, leaving the body to be expelled by the contraction of the uterus, which more effectually secures the patient from a return of the discharge, but if the hæmorrhage is not restrained by bringing down the feet, some irritation should be created, by the fingers of the accoucher, in the vagina or perineum, which will sometimes produce contraction. The difficulty of introducing the hand will be more or less in proportion as the patient is more or less advanced in her pregnancy, but in all cases it may be done.

It sometimes happens, that Uterine Hæmorrhage shall come on, occasioned neither by accident nor by increased circulation, but from the adherence of the placenta over the os uteri, which, when the cervix uteri begins to dilate, or after natural labor has commenced, is necessarily separated, and hæmorrhage is the consequence. In this case some have recommended, that we should pass by the



placenta, rupture the membranes, and bring away the child through them. This method is thought inconvenient by some, who recommend a shorter way, which is, to pass the hand through the middle of the placenta, and bring the child down through the opening. A method recommended by Dr. De Wees, in his course of lectures, is perhaps the best, which is, to insinuate the hand at one side of the os uteri, between the placenta and that viscus, always, when it can be discovered, on that side where its edge approaches nearest to the orifice, taking care not to rupture the membranes, if possible, till the hand approaches pretty near its fundus, and there to pierce them, lay hold of the feet, bring them down, and deliver. By this method the child's life will not be endangered by a rupture of the umbilical arteries, which would be case when the hand is thrust through the placenta. A turning can be effected with more ease, in consequence of retaining the waters, which will prevent the uterus from contracting on the body of the child, which the practitioner may let off at pleasure. If a woman falls into labor in good health, perhaps, and a flooding comes on during the course of it, she is also to be delivered directly, either by turning the child, or, if the head is sufficiently low down in the pelvis for the application of the forceps, they should be applied; but if they cannot be applied without a risk of injuring the mother, the only resource will be in the application of the crochet; in either case, if the hæmorrhage is restrained, when the head is delivered, the body should be

suffered to remain till it is expelled by the contraction of the uterus.

In the next place, a woman may have gone on very well in her labor, and the child have been born alive, when on a sudden, before the delivery of the placenta, a prodigious flow of blood comes on. In all cases where a placenta is to be brought away, the woman should first be cooled, and desired, if she feels either pain or water coming away, to make it known, (I say water, because there is no necessity for her to know that it is blood) and when she complains of either, she should be attended to, and if it happens, that she is flooding, the placenta must be brought away immediately, for the same reasons, that in other circumstances I have directed, the child should be delivered.

In such cases, in separating the placenta, before it is brought away, care should be taken to compel the uterus to contract so much as to expel both our hand and the placenta, and it usually contracts by the mere introduction of the hand; but if it does not, it must be stimulated to it by gently rubbing our fingers against it.

Hæmorrhages are not always restrained, even after the delivery of the child and placenta, and sometimes, when hæmorrhage has preceded, a violent flooding comes on after the delivery of the placenta. It is not uncommon, where there is a strongly contracting uterus, for a pint or a quart of

blood to follow the placenta, which was the whole quantity contained in the cavity of the uterus, but which does not produce debility or faintness; but when the discharge continues, and is attended with faintness, it is to be considered as flooding. It has been called, by some, the immoderate flux of the lochiæ. Almost every case that occurs is the consequence of bringing away the placenta too soon after the delivery of the child. The placenta comes away, generally, about twenty-five minutes after the delivery of the child, and if it is expelled, by the contraction of the uterus, no hæmorrhage ensues. When it so happens, that the placenta has been brought away, and the patient is flooding, recourse must be had to those means, which are usually employed for the restraining of hæmorrhage; but the chief dependence must be placed on the application of a compress, which will extend from the umbilicus to the pubis; of cold to the back and loins, such as cold water, or water in which salt has been dissolved. Her drink must be cold water, or she may take ice, if it can be procured. At the same time all the bed-clothes must be removed, the sheet excepted, which must be left on her only for sake of decency; the fire must be put out, if there is one in the room, and whether it is winter or summer all the windows and doors must be thrown open. Most commonly, if these means are employed, the hæmorrhage will be restrained. Unfortunately they do not always succeed; cold water or vinegar and water, must then be injected into the uterus, or a piece of ice,

if at hand, must be introduced into it. In all cases, but more especially if the patient has had any degree of flooding, she should not be moved for several hours after delivery, and particular care must be taken when she is moved, that she is not put into an erect posture; because, though the flooding has been stopped, it will be re-produced by such means, and sometimes, even though there has been no flooding, either before or after labor, setting a woman upright will be sufficient to produce it: of both these cases there have been instances.

To Dr. De Wees I am much indebted for the many opportunities he, in a friendly manner, afforded me, of becoming acquainted with this subject, and for many valuable cases in his private practice; for which, I beg him to receive my particular acknowledgements.

I return my most grateful thanks to the medical professors of this university, for the assiduity and honesty with which they delivered their instructions, by which I have been much profited.

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